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The problems of changing a school system require a systematic approach that coordinates various efforts within the system. A model, developed by Professor Goodson and his staff, deals with the design of a change-agent team and the work that such a team might perform. The model requires four functions to be performed: Diagnosing problems, planning action, transforming strategy into action, and evaluating action results. A team is expected to plan for and manage specific changes and to facilitate and perpetuate an innovative climate in a school system. The application of the model to three Wisconsin school systems is outlined as an illustration of the early operation of change-agent teams. Plans for evaluating the effectiveness of the team approach and results from the activities of a change-agent team are reported. (AUTHOR/HW)

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A TEAM DESIGNED FOR SCHOOL SYSTEM CHANGING

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Theoretical Paper No. 11

A TEAM DESIGNED FOR SCHOOL SYSTEM CHANGING

Max R. Goodson
Professor of Educational Policy Studies
Principal Investigator, R & D Center
University of Wisconsin

Richard Hammes
Assistant Professor and Director of the Laboratory School
Oshkosh State University
Oshkosh, Wisconsin

Report from the Models for Planned Educational Change Project

Max R. Goodson, Burton W. Kreitlow, and Warren O. Hagstrom,
Principal Investigators

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PREFACE

Within the Center's goal of improving cognitive learning by children and youth, projects comprising Program 3, Facilitative Environments, are focused upon developing and testing not only organizations facilitating learning research and development in the schools but also effective means by which schools select, introduce, and utilize innovations.

In this Theoretical Paper are described the conceptualization and piloted installation of a change-agent team in three school systems. The structure is designed to bring about planned change. Professor Goodson and the staff of Project 3B, Models for Effecting Planned Educational Change, have developed and applied the model as described herein. By establishing a mechanism to identify the need for change, to begin the implementation of a change process, and to evaluate the effects of change efforts, it is calculated that schools will increasingly become more self-determined in selecting appropriately and utilizing effectively new structures, roles, materials, and procedures that are becoming today more abundantly available to the educator.

Thomas A. Romberg
Director, Program 3

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ABSTRACT

This paper is based upon the premise that the problems of changing a school system require a systematic approach that coordinates various efforts within the system. A model for change-agentry is postulated which deals with change-agent team design and the work that such a team might perform. The model requires that four functions be performed: diagnosing problems, planning action, transforming strategy into action, and evaluating action results. A team is expected to plan for and manage specific changes as well as to facilitate and perpetuate an innovative climate in a school system. In defining its functions, a change-agent team is viewed as a model for other colleagues to emulate, an active intervener in bringing about change, and a resource to the school system in extending change efforts by whatever structure may first be formulated. Areas of training are identified as human relations, handling of data, and the use of problem-solving skills and external resources.

The application of the model to three Wisconsin school systems is outlined in sufficient detail to illustrate the early operation of change-agent teams. Plans for the evaluation of the effectiveness of a team approach are reported. Also, some potential and concrete outcomes for a school system that may result from the activities of a change-agent team are described.

I

WHY A SYSTEMATIC APPROACH TO SCHOOL SYSTEM CHANGING?

There is nothing new about schools making changes. They have always been to some degree responsive and adaptive to their environment. It is recognized today, however, among a growing circle of school people, that a systematic and organized approach to changing is now needed if the Nation is to have improved schools.

This new emphasis has come in response to a greater recognition that change is chronic and ubiquitous. Both the professional practitioner and the school system in which he works are always encountering changing conditions and proposed innovations for coping with the new conditions. For the following reasons the school practitioner may now recognize the need to manage and direct the processes of change and not just allow them to happen in any fashion.

1. Chaos and anarchy can result unless change is planned. As suggested above, change is inevitable in schools since their environment is comprised of industry, science, political and social institutions—all of which are changing at an increasing tempo. These changes, at first external to the school, impinge upon the school to modify its child and adult personnel and its structures and functions. Unless effective adaptations are made quickly, the school becomes disorganized and dysfunctional to some degree. Ultimately, unless a compensatory response is made, confusion results.

2. Resources for producing innovations may be wasted unless intelligently used. Needed innovations must be carefully studied and evaluated in terms of the needs of a school system and not be introduced haphazardly or by fiat. This criterion requires planning to assure that innovations are intelligently installed and used. Only through an approach of planned change can the waste of innovations be avoided.

3. Schools will not fulfill their appropriate roles in the national social order and the local community life unless school systems plan appropriately for the future. That schools must change is now more frequently than not taken for granted by professional leaders. But the problem still remains of making changes that are appropriate and are made in an intelligent manner.

4. Another reason for giving attention to systematic changing of schools is that now there is a greater and more concentrated public demand that schools change and improve. These demands emanate at the national level through actions of federal government officials and also flow from the statements and actions of state and local community leaders. In short, public policymakers at all levels have become concerned with the quality of schools.

5. Another factor pointing to the need for a systematic approach to change is that federal monies are appropriated by Congress to be used by various agencies for achieving educational improvements. These monies are allocated in most instances on the basis of a proposal setting forth a planned change in some aspect of a school system. Therefore, school practitioners are stimulated in planning changes and are discouraged from continuing to do more of what has been done in the past. In addition, money is placed largely on projects deliberately designed as innovations.

6. Because of the use of knowledge-based technology and management operations in the industrial organizations and other agencies of the community, a higher level of educational attainment is required of the young person entering his adult years than was needed a few years ago. Work has become much more technically complicated. The human side of effective job performance has become more far-reaching and demanding and therefore more requiring of a better education. These conditions of industrial and community upgrading require educational improvements.

7. The knowledge resources of the behavioral sciences have become more abundant in recent years, and a greater number of behavioral scientists have made themselves available to enterprises of educational research and development. These activities make more ideas and

educational products available to schools. Such ideas and products are stimulating schools to change, and when utilized properly they help practitioners to make appropriate changes in schools.

The school practitioner is at the center of the effort to change. He is becoming more active in seeking changes. He still reacts to his environment outside the school, but he is also becoming more proactive in seeking better materials and patterns for teaching. Therefore, a central concern of the practitioner today—at least the leading practitioner in administration and teaching—is increasingly becoming that of finding ways and means whereby he can manage the change process in an orderly and comprehensive manner.

II

A MODEL FOR CHANGE-AGENTRY IN A SCHOOL SYSTEM

DEFINITION AND BACKGROUND

A change-agent, defined in its simplest terms, is a person or group who works toward bringing about change. Lippitt, Watson, and Wesley[1] more explicitly defined a change-agent as "one who has a central role in initiating and influencing purposefully change in a system." The latter definition emphasizes a dimension only implied in the former, namely that change not only might, but should, be planned and managed by a change-agent, rather than be allowed to happen randomly and capriciously, with the system reacting randomly and capriciously. Bennis, Benne, and Chin[2], agreed with the definition formulated by Lippitt, Watson, and Wesley, with one important exception. They felt that Lippitt in his earlier statement saw the change-agent as a free agent from the outside only, divorced from the client system. Chin felt that such a definition was too narrow and should be enlarged to encompass "any agent used by the client-system to help bring about improved performance." It should further be noted that Chin's definition of a change-agent is the only one of those discussed here which places a value-judgment on change, i.e., "improved performance."[3]

In line with the above definitions, one can note any number of occupations which might be termed "change-agent." Industrial consultants, social workers, the professional service occupations, and agricultural agents are but a few from diverse occupational fields. The school system is not exempt from the presence of change-agents in the professions.

Whether school systems are aware of it or not, agents for change function in all systems. "Any person in the system," stated Jung,[4] "from the superintendent to a kindergarten pupil, has some potential as a change-agent." Different persons have differing power and potential power to act as a change force within the system. A crucial distinction between such a person or group and those implied in the above definitions is self-awareness as a change-agent. Although empirical validation is needed, it is assumed in this paper that self-aware change-agents are more effective in planning and managing change than persons or groups who are not aware of their potential as effectors of change.

Historically, the role of change-agent has been prescribed and largely limited to the superintendent of the school system. As the growth of city school systems paralleled the growth of urban areas in the mid- and late-nineteenth century, a new concept of school administration was forthcoming, typical of which was that expounded by William Torrey Harris and William H. Payne, both city school superintendents, university education professors, and formulators and writers of educational administration theories. For them, the first problem of the superintendent was to discover by philosophical or scholarly inquiry the appropriate purposes of and the methods for education. These were to be discovered by the superintendent, whose superior knowledge fitted him for this task. At that point it only remained to execute the superintendent's plans. Although later administration theorists sought to unfreeze this icy authoritarian approach, a recent study on the school superintendency has concluded that superintendent variables were most important regarding adoption of educational innovations.[5]

To deny the superintendent his role as a change-agent in a school system today is unreal and unwise. But to look to the superintendent as the change-agent in a school system is unhealthy for the system. It implies that no one else on the staff has the interest and capabilities necessary to contribute innovatively and creatively to the system. While it is true that the superintendent and/or members of his staff must be included in the change-agent structure due to their key location in the decision-making apparatus and their perspective in overview of the system, other school personnel—including teachers, principals, and school board members—should participate collaboratively in change-agentry for enhancing their morale and facilitating the development and utilization of their linkage roles in the system; in the final analysis,

the success of a change project will depend upon how well they and/or their peers implement such activity.

CRITERIA FOR CHANGE-AGENT TEAM DESIGN

Change-agent teams appear to be a vehicle by which change may be planned and managed in school systems. Criteria for such teams involve the following considerations.

Size

The size of a change-agent team should be large enough to utilize the potential of a variety of individuals representing a variety of roles in the system but small enough to be functional. The ideal size would be from five to eight members.

High Level Representation

The superintendent and/or his central office representatives should be members of the change-agent team. Such representation would ease legitimation problems of the team, provide the team with overview perspectives, and give a basis in reality for implementation of decision-making by the team.

Vertical Role Representation

Principals, teachers, and school board members should be placed on change-agent teams. This would more readily insure divergent thinking in problem-solving and provide necessary linkages in the system which would aid in innovative implementation.

THE WORK OF THE CHANGE-AGENT TEAM

The work of a change-agent team, as indicated in the definition, is that of initiating and influencing change in the system. This comprehensive change can be broken down into functions relative to two dimensions of change which should be considered in the school system. One dimension is that of planning for and managing specific changes which systems might need or desire. The other dimension of change which can be charged to a change-agent team in operation is that of assisting in facilitating and perpetuating a climate in which change and innovation might flourish as a natural feature of system operations.[4] Each of these change dimensions will be examined in relation to the work of a change-agent team.

PLANNING FOR AND MANAGING SPECIFIC CHANGES IN THE SYSTEM

As a change-agent team works in the dimension of planning for and managing specific changes in the school system, it follows a process not unlike the steps in a problem-solving model. It is not the intent of this paper to select and advocate a particular brand of rigid problem-solving steps, but rather to present a more general approach which allows for flexibility in implementation. Certain techniques which have proved helpful in working through particular phases of the process will be discussed. In general, a change-agent team will ideally work through the following four phases as it plans and manages specific changes in the school system.

Sensing, Diagnosing, and Analyzing

These three are vital initial steps to any planning or implementing of a change in a system. Action discussed or taken before thoroughly exploring all facts of this first phase is premature and, in most likelihood, would be detrimental rather than helpful to the system. These three facets of Phase 1 have the common property of being preparatory steps to planning and acting. In many cases they overlap, and it might be difficult to determine where one ends and the other begins. Some differentiation, however, can be detected.

Sensing an unfulfilled need in individuals, groups, or systems is a delicate but vital step for a change-agent team. In reality, sensing is everyone's job in a system, and this universal responsibility implies the need for open communication channels and the sharing of feelings of members of the system in an open, authentic manner. While system sensing of need is one side of the sensing coin, the other is that of continual scanning for, or keeping up with, scientific discovery, technological improvements, and innovative ideas. Also on the other side of the coin is the sensing of the social pulse of the local and greater community. Inputs from these sources need to be related to the sensed unmet needs of the system. The boundaries between the system and the community and particularly those which relate the system to sources of potential changes represent a critical locus for sensing activities of the team. Here again, all personnel in the school system should be keeping up, but implied once more is openness of communication and mutual sharing by the members of the system. Thus, while all members of the system are sensing and scanning, including the change-agent team, the team might be the designated compiler

of the system sensing and scanning results. If such is the case, it is imperative that the change-agent team actively works at keeping all channels of communication open and at building mutual trust among personnel so that open sharing of feelings and findings will continue.

Sensing, diagnosis, and analysis need to be done systematically by members of a change-agent team with their other colleagues in the school system appropriately involved. There are two diagnostic contexts to guide this phase of team and colleague functioning. One context is organizational and the other is instructional. These contexts are related through a necessary connection between the structures of organization on the one hand, and the functions of instruction on the other. The organizational units of a school system—the school board, superintendent's office, principal's office and teaching faculties—exist to support the teaching-learning functions of the school.

Particular structures that comprise the organizational environment of instructional activities require diagnostic attention. The facts provided through diagnosis frequently require that the structures be changed if the organization is to function more appropriately and effectively in facilitating the instructional program. The essential structures have been described by Jensen as the following: work, communication, authority and power, and friendship and prestige. The work structure relates to the central public task or mission of the school which is to facilitate teaching by teachers and learning by pupils. The other structures named above, as elements in any formal organization, are closely tied to the work structure of the school system. This structure may therefore be used as the important representation of the organizational context in which diagnosis is almost always needed for effective problem-solving. In sensing and clarifying organizational problems a change-agent team may ask and invite colleagues to consider the following illustrative diagnostic questions regarding the work structure of the central office of a system or the structure of an individual school organization.[7]

1. Have all the necessary tasks been assigned to persons occupying roles in the organization so that there are no gaps in the work process (planning and executing the necessary administrative and teaching functions)?
2. Are the various tasks carried out in the most efficient order of sequence?
3. Are authority and task functions coordinated so that work is not halted or slowed down when necessary decisions are being made?
4. Are all the authority functions assigned that are necessary to the work of the organization?
5. Does the authority assigned to different members conflict or overlap anywhere?
6. Is everyone clear about what authority rests in what roles?
7. Can members easily share needed information?
8. Do members feel free to express their views and feelings about the work of the organization?
9. Are members mutually concerned about providing for each other's work needs?
10. Are informal groups primarily concerned with personal affairs or with unresolved problems existing in the internal school structures?

The instructional context for diagnosis involves the teacher and pupils and their interactions at the classroom level. The improvement of teaching requires problem-solving on this level. Changes that may lead to improvement in the teaching-learning situation must be based on the diagnosis of certain realities which include teacher behavior and attitudes toward pupils, interpersonal perceptions between pupils regarding behavior and learning, pupils' perceptions of their teacher, pupil group norms, learning difficulties of individual pupils, and problems of pupils as they interact with materials and instruments designed to facilitate learning.

The change-agent team needs to involve teachers, principals, and other professional personnel close to the teaching-learning situation in asking the following illustrative diagnostic questions:[8]

1. Do pupils in a class perceive their teacher as accepting them as persons?
2. To what extent do pupils share with their teacher a mutual understanding as regards the appraisal of classroom behavior?
3. Do pupils perceive their school peer relationship as encouraging friendship and self-acceptance or do relationships contribute to low self-esteem?
4. Do pupils view their parents as supporting the school and their participation in its instructional program?
5. Do pupil norms of the peer-group culture and social relationships in the school influence learning in a negative or positive manner?
6. Is the behavior of their teacher seen by pupils as encouraging and helpful to their efforts in learning or as a neutral or even a deterrent factor?

7. Are pupils being encouraged and helped to use a variety of learning resources?

8. Does the pursuit of learning as perceived by pupils contribute to a positive self-concept and personalized conception of school purpose and academic achievement?

In outlining the above two lists of diagnostic questions in the organizational and instructional contexts, the point to be underscored is that a change-agent team is required to initiate actions of inquiry which lead ultimately to improvements in the classrooms of a school system. Problems that are located in the organizational context of a school system should not, however, be neglected. Sensing, diagnosing, and defining such problems so that they may be solved adequately represent a necessary condition for dealing with instructional problems. This is the necessary-but-not-sufficient criterion. A second criterion is, of course, that a change-agent team make certain that attention is focused at the right time and in appropriate manner upon the classroom.

Sensing creates an awareness of a problem; diagnosis and analysis attempt to gain an understanding of the why of the sensed problem. Rather than a vague feeling of uneasiness, there should follow an identification of the exact type and location of the pain and the underlying cause of the symptom should be determined. Diagnosis attempts to get at the cause through inquiry into the symptoms, and analysis attempts to get at the cause by minute interpretation of the problem in order to gain better understanding of the whole through its interrelated segments. The results of diagnosis and analysis are delimitation of the problem and formulation of a specific and concise definition of the problem. At this point the problem becomes manageable.

The quality of the sensing, diagnosing, and analyzing is highly related to the quantity and quality of the data available to perform these functions. Thus, of vital importance for a change-agent team is the practice of collecting data and the concomitant ability to interpret the data in a meaningful way. The collection of survey data by the team can serve at least two purposes. One is that of facilitating the sensing of a problem in a system by studying responses of feelings, ideas, and attitudes of participants in the various role levels of professional personnel and by measuring discrepancies in responses among and between levels and building staffs. The other allows a more specific use of data to aid in the diagnosis of probable causes once a problem has been sensed and is beginning to be defined.

The COPED package of instruments can be employed to illustrate such uses.[9] If analysis of the "Meetings" questionnaire, for example, showed teacher dissatisfaction with faculty meetings, such results could be indicative of more covert, deeper-seated resentments of teachers against the school system authority structure. All possible interpretations should be pursued as a means of problem sensing and defining.

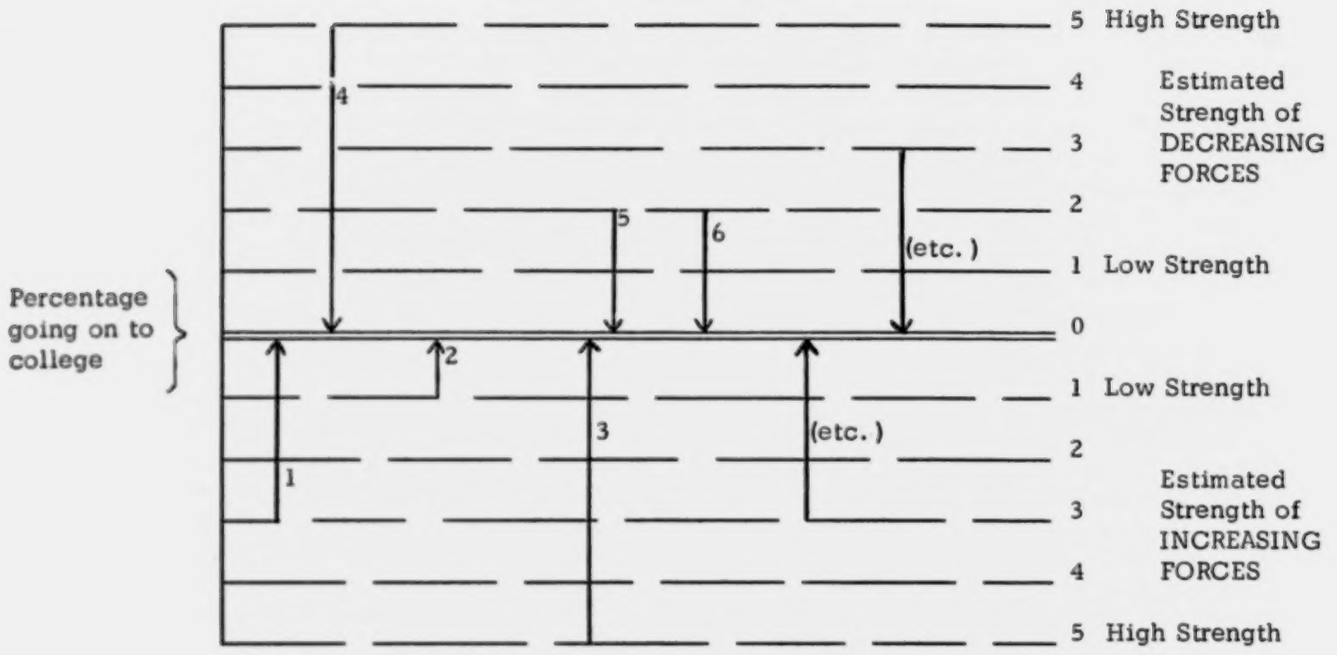
Another example might be related in which analysis of the "Goals" questionnaire data indicated discrepancies in teacher and administrator responses. Such data may be utilized to aid in sensing and defining a problem, or, if a problem has been defined, the data may be helpful in outlining possible causes in an attempt to work through to a solution.

Another means by which data can be utilized in the sensing, analyzing, and diagnosing work of a change-agent team relates to feedback of analyzed data. Appropriate feedback presentations to team members and selected professional personnel in the system may facilitate problem identification and definition.

Planning Action to Alleviate and/or Solve the Problem

This phase follows naturally after proper consideration of the sensing, diagnosing, and analyzing work of the change-agent team. It is important, however, that the planning of action occur only after all of Phase 1 is satisfactorily completed. Plans of action begun with improper delimitation and definition of the problem more than likely will be unrealistic, will have little bearing on a problem, and will have slight probability of proper implementation. Such plans, even when well-organized, will offer solutions to no specific problems and will result in loss of staff morale and change-agent team status in the system.

After Phase 1 has been completed, the planning of action can begin. Planning might commence by identifying certain dimensions of the problem. This is possible due to the delimitation and definition of the problem as performed in Phase 1. One dimension which should be identified in the initial planning step is that of forces, both internal and external to the system, which are effective in maintaining the present problem state. Another dimension which should be identified is that of roles involved in the problem area and those which will be affected by the implementation of a strategy which might lead to a solution of the problem. This latter dimension



Taken from the COPED PACKAGE, Form S-3 for the Superintendents adapted from W. G. Bennis.

Figure 1. Force Field Analysis of the Variable: Percentage of students going on to college from a high school.

The level stays reasonably constant from year to year because the forces tending to raise the level are just counteracted by forces tending to lower the level. Among forces tending to raise the level of the variable might be:

1. pressures from parents for their children to go on to college
2. the students' feeling that it is "the thing to do" in this school system
3. adequate income to handle college expenses

These forces, and any like them, will be called INCREASING FORCES.

Among the forces that tend to lower the level of the variable (which will be called DECREASING FORCES) might be:

4. lack of student interest in continuing education
5. ineffectiveness of some aspects of college preparatory curriculum
6. availability of interesting jobs for high school graduates

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of role identification also can lead to a further identification of potential role restructuring or creation which might be needed to implement a strategy in solving the problem.

A technique which has proved helpful in the identification step of planning is the Force Field Analysis, based on the psychological theory of the late Kurt Lewin. In Force Field Analysis a problem is viewed as a product of forces working in opposite directions (Figure 1). It is analogous to the principle in physics stating that a body is at rest when the sum of all the forces operating upon it is zero. The body will move only when the sum is not zero and will move in the direction of the lesser force. A system problem may be viewed in a similar manner where the forces operating for and against it are of equal magnitude, thus causing and maintaining the present situation. If the forces raising the level of the problem (increasing forces) and the force decreasing the level of the problem (decreasing forces) can be identified and quantified, such a schema can graphically illustrate potential points of entry and directions of intervening which the team might undertake to resolve the problem. With such a schema, potential pockets of resistance can readily be identified, as can role incumbents and role changes involved in potential strategies of problem-solution.

At this point, alternative strategies might be prepared, based on the schema of the Force Field Analysis. For example, in a particular case the team may find it feasible to intervene

with one of the forces raising the level of the problem in an effort to reduce that force, rather than attempt to strengthen other forces which tend to decrease the level of the problem. In some cases the team might decide that the wisest strategy would be that of multiple entry, in an attempt to upset the equilibrium of forces maintaining the present situation by working on two or three forces concurrently. One type of force which would be identified by the Force Field Analysis is a resister. The team could plan strategy whereby these resisting forces could be worked with in an attempt to lower the level of resistance.

Thus, Force Field Analysis provides feasibility and reality checks on entry and intervention strategies. It would be wasteful and foolhardy for a team to attempt to intervene with a force in which realistically it could make little impact. A much better strategy would call for the team to intervene by acting upon those forces which are most likely to be affected by such an entry.

One internal force identified by the team is represented by those staff members who are affected by and/or are resisters to a planned change strategy. Getting those persons involved in a planned change at the earliest possible point is probably the most successful intervention which a change-agent team can make to insure the success of the strategy. This does not mean manipulation on the part of the team in getting others to see their point of view, but rather it means honestly and authentically involving them in a collaborative relationship as the problem is felt, defined, and planned for. If a proper climate of openness and trust permeates the school system, it is probable that those persons were in great part responsible for sensing and diagnosing the problem in the first place and were working with the change-agent team on that particular problem from the outset. On the other hand, it is quite possible that the change-agent team may sense and diagnose a problem and then actively enlist the collaborative support of the potential implementers of the planned change. In this case early involvement is the key. Only if those persons are or become internally committed to the planned change will such a change be successful in solving a system problem. Without that commitment on their part, the change will be superficial, a paper change, without any lasting effect in gaining a solution to a problem.

Transforming Intended Strategy into Action

After all potential strategies have been examined for feasibility, realism, and goal orientation, one generally is chosen to be acted upon. The success of this phase has been determined to a great extent before implementation actually begins and is directly related to the quality of work done by the change-agent team in the first two phases of functioning—sensing, diagnosing, and analyzing; and planning. If the strategy to be implemented has its base firmly rooted in the goal as it relates to the specific problem identified and has been studied in relation to feasibility and reality and if the appropriate staff members have been properly involved throughout the life of the study, successful implementation should be a normal result of the preparatory work. At this point, the work most likely will be in the hands of the daily practitioners while the change-agent team becomes a coordinator and facilitator in the change project. Again, the human relations aspect maintains a vital place in this phase. A fine balance of freedom for the daily practitioners and support of them by the team must be maintained so that the "infant-change" may mature sufficiently to be properly evaluated on its merits as a viable solution to a specific system problem.

Evaluating Success

A final phase in which the change-agent team must function is that of evaluating success. In evaluating the success of a particular change which it planned and managed, it in fact is evaluating itself as a viable structure for planning and managing specific changes in the system. This final phase of evaluation is limited to those activities that define the particular scope of a change-agent team. It is recognized that other structures in a school system—the superintendent's office, a committee designated by that office, or the school committee—may appropriately, and should, evaluate the success of a change-agent team. Certain key evaluative indices are as follows:

a. A need is satisfied; a problem is solved. If a real need has been sensed, the problem specifically identified, the planning and implementation carried out in both its human relations and content aspects, and the problem is solved, then indeed the change-agent team can evaluate itself positively. If a plan is implemented and the problem is evident long after the plan for which it was devised is implemented, then the change-agent team was not successful in its functioning, and this itself should become its top priority problem with which it should deal.

b. The change becomes internalized personally and institutionalized organizationally.

Change-agents, in the final analysis, affect attitudes, behaviors, and skills of persons with whom they work. Thus, if they are successful, the change which they saw as a fitting solution to a problem will become a part of the new behavior of those persons involved in the implementation of the change. If unsuccessful, the change may still be mandated by the change-agent team, only to be resisted overtly or subtly by those implementing the change; and thus, rather than having solved a problem, the team has created a problem perhaps more devastating to the system than that with which it originally dealt. Institutionally, the change will be "woven into the fabric" of the system if the team has functioned properly. A superficial change which has little bearing or effect on the system in relation to its organizational climate and operation will identify the change-agent team as unsuccessful in this aspect of its duties.

c. The team must achieve a satisfactory terminal relationship with the change and personnel implementing the change. The planning for terminating the relationship should be accomplished as a normal part of the planning phase of the operation. The press, presences, and prestige of a change-agent team may create a normal dependent relationship on the part of the "client." For a change-agent to be successful, however, the client must become independent of the change-agent without a loss of effectiveness. Without such a transition, a change-agent team may become in time uneconomical and ineffective through its perseveration in the planning and managing of change. Its work must be terminated to be judged successful.

d. The change will be pervasive. If a change resolves a problem in one part of the system, that change may be adopted or adapted to resolve a like or similar problem in another part of the system. The same may be true among systems as well as within systems. The pervasiveness and adaptability of the change not only evaluates the team effectiveness in finding solutions to problems, but also evaluates its communication adequacy as it relates to the system.

This, then, is the manner in which a change-agent team works as it plans and manages specific change in the school system. Much more detail in specific phases of operation might have been given, but the purpose here is not to become minutely prescriptive. The phases, although sequential, obviously overlap and provide adaptability as they might relate to specific change-agent teams. Further, in most cases change-agent teams will attack problems not consecutively but concurrently, finding the need to spend varying time periods at different phases for each of the problems on which they work. Thus the operations of a change-agent team may not be so neatly "packaged" as it works on a multiplicity of needs and problems in a system. In general, however, the overall design of operation will be similar as change-agent teams attack a variety of problems.

FACILITATING AND PERPETUATING AN INNOVATIVE CLIMATE IN THE SCHOOL SYSTEM

Another dimension of change in which the change-agent team provides leadership is that of facilitating and perpetuating a climate in which change and innovations may flourish as a normal part of the system operations. In assisting in bringing about such a climate, the change-agent team has three functions relative to the system, namely serving as a model for change-agentry, carrying out interventions in the system to bring about desired behavioral changes on the part of members and groups in the system, and serving as an internal resource for more localized change-agents in the system.

The Change–Agent Team as a Model in the System

The change-agent team, both as individual members and as a group, must exhibit behavior which it desires to become normative in the school system. Basic in this behavioral syndrome is the spirit of inquiry, which might be termed "changefulness" or "innovative behavior." Regardless of terminology, the exhibited behavior is one of dissatisfaction with the present, the continual seeking and searching for something new or better, the willingness to take a chance on something even if it is somewhat risky, and the ability to reject new ideas and methods if they be of less value to the system than the present manner of operation. Personal qualities of members as they involve interpersonal relationships include self-awareness, trust, authenticity, openness, and honesty. The team and its members should deal with problems systematically but should not ignore feelings as they affect the situation or the working relationships.

The team, as well as its individual members, should be very aware of itself—who it is, how it operates, and how it is viewed and relates to other forces in the system. All of these qualities should serve as norms which can be modeled by other persons and groups in the system.

The Change–Agent Team as an Active Intervener in Bringing About Change

Not only may the change-agent team serve as a model for changeful behavior in the system, but it may also actively engage in working with school system personnel in preparing them to become more changeful and innovative in their attitudes and behaviors. In effect, the change-agent team works toward ultimately making every staff member a change-agent in his role in the system. The spirit of inquiry, the utilization of a problem-solving approach to their situation, the understanding of the human consideration and the need for collaboration in dealing with problems, the personal qualities which allow for successful collaborative relationships, and the development of trust in the system which allows and encourages changefulness and innovativeness are attitudes and behaviors which the change-agent team must help to develop in the entire staff.

This work on the part of a change-agent team can be done through preparing staff members for specific changes such as developing a non-graded system or moving into a massive independent study program. But the work can be done more directly by the change-agent team through workshop and laboratory sessions pointed at helping to develop in the staff such desired behavioral changes. Such sessions might be planned with specific building-level teams of a principal and teachers with a focus on utilizing a problem-solving approach and on employing appropriate techniques for dealing with an actual problem facing the staff. Another session involving a building team might work on developing personal insights into their functioning in group situations to aid them in better collaboration in problem-solving. Still another session might include same-level roles (such as elementary principals) and focus in a laboratory setting on collaboration and how to give and receive consultation help.

Active intervention on the part of the change-agent team in bringing about desired behaviors and attitudes in staff members is important in raising the level of innovativeness in the system and contributes ancillary benefits in raised morale and self-awareness of the staff as professional members of a professional team.

The Change–Agent Team as a Resource to the School System

An important function of the change-agent team is that of serving as a resource to persons or groups in the system who are active in change-agent roles in more local settings in the system. As part of its facility as a resource, the team serves as a link between the system and other outside resources on which the system might call for specialized services. For example, a building change-agent team might want help in preparation of certain teachers who are going to be involved in planning an innovation in the building. The system change-agent team might be able to assist in this matter up to a point. It might decide that more intensive human relations work is needed and at that point may choose to identify and call on a specific outside resource which specializes in this aspect of planned change. In other situations the system team might be able to identify specialists in content areas in which local teams are involved. Thus, the change-agent team itself must be aware of its own strengths, weaknesses, capabilities, and limitations in order to work most effectively with other teams in the system. Further, it must continually scan for innovative practices, which may have potential use in the system, and continually keep up with external resources which have potential for assisting in planning and managing change in the system.

This type of activity on the part of the change-agent team, namely facilitating and perpetuating an innovative climate in the school system, may, in the final analysis, be the most important work the team can do. By performing such a function the team adds a self-renewing dimension to the school system, where innovative behavior becomes the norm at all levels and in all roles.

SUGGESTED TRAINING AREAS FOR CHANGE-AGENT TEAMS

As one views the activities in which change-agent teams work, it becomes evident that certain training would help a team perform its functions effectively and efficiently. Although not exhaustive, the following types of training would seem warranted for all change-agent teams.

Human Relations Training and Understanding of Human Dynamics

The dual purposes in this area of training are to make the change-agent team effective internally in its own work group and to make it effective as it relates with individuals and other forces in the system. The expected outcomes of human relations training are twofold. One is the gaining of self-awareness on the part of the members of the change-agent team. In a training group, the individual becomes aware of his strengths, weaknesses, motiva-

tions, prejudices, and biases and can learn to consciously take them into account as he relates to other people. Through feedback from other members of the group, he begins to see himself as he is seen by others and more clearly understands how he "comes across" to others. Training offers him an opportunity to experiment with new behaviors in a nonthreatening situation. The other expected outcome of human relations training is the individual's gaining of sensitivity to others, increasing insights into how and why people relate as they do in a particular situation, to the end that the individual can accept others authentically as he accepts himself realistically. Still another result of this type of activity is the gain in an individual's ability to give feedback and consultation help and the equally important ability to receive feedback and use it properly, to receive consultation help and use it in a constructive way in solving problems.

This type of training results in the understanding on the part of the members about how groups develop and function. As participant-observers, group members gain insights into stages through which groups pass and problems which they face as they develop from a group of persons into an integrated work team. Knowing, for example, that all new groups work through the problems of dependence relationships (authority relations) and interdependence relationships (interpersonal relations) would be very helpful to a new change-agent team as it feels and works through legitimation frustrations and conflicting role expectations by other parts of the system.

The Handling of Data

As indicated previously, the gathering and interpretation of data are invaluable assets in sensing, diagnosing, and analyzing problems and in evaluating effectiveness of the implemented solution. Particularly important is the use made of the data through feeding selected information back to various groups of school system personnel. This technique is extremely helpful in the sensing and diagnosing phases, but its effectiveness is greatly determined by the skill of the persons employing the technique. Thus, training in methods of data collection and interpretation, and skills in utilizing the data through feedback displays, would be valuable to a change-agent team.

The Knowledge and Utilization of Problem-Solving Skills

Not only should change-agent teams gain awareness of the specific steps in a problem-solving model, but training should also make them more cognizant of, and give greater feeling for, the depth to which each step might be applicable in a given situation. The steps in problem-solving relate to the scientific method, but certain artistry and creativity are employed in the application of these formally defined scientific steps to an actual situation. Again, appropriate techniques such as feedback analysis and Force Field Analysis should be learned by the change-agent teams.

Awareness and Use of External Resources

Because change-agent teams, in planning and managing change in school systems, must utilize the best and most appropriate resources as they are needed, they must look beyond the internal structure of the system to the external environment to identify resources which might be of potential use to the team and the system. Thus, part of the training of a change-agent team should involve learning about sources and types of outside agencies available to the team. Such potential resources might be public or private, educational or non-educational, specializing in such areas as subject-matter disciplines, research, innovations, curriculum, finance, child development, organizational structure, and interpersonal relationships.

Along with knowledge of available resources, training should be given in the ability to use the resources properly. Some of this training will be provided through human relations training in how to give and receive help, but other more specific aspects of utilization of resources should be considered. Such aspects as preparation for a consultant, at what time in the problem consideration a consultant should be brought in, and preparing for a terminal relationship are but a few which might be considered directly.[10]

This, then, is the model for change-agentry in a school system. At this point the model must be implemented and tested as a real and viable structure in a school system for planning and managing change.

III

IMPLEMENTING THE MODEL

The project "Models for Effecting Planned Educational Change" of the Wisconsin Research and Development Center for Cognitive Learning is attempting to test the feasibility and viability of the change-agent model, and its effectiveness in local school systems.[11] The project is an experimental probe, utilizing both experimental and control systems to assist in evaluation. For the purpose of this paper, however, no further comment will be made of the research design (at best a quasi-design). Discussion will center on the experimental school systems which, in effect, are implementing the change-agent model in the system.

Three Wisconsin school systems—Sheboygan, West Bend, and Wisconsin Heights—are employing change-agent teams to facilitate planned change in their school systems.

THE COMMUNITIES AND THE SCHOOL SYSTEMS

The three communities in which school system change-agent teams were located are quite different and distinct from each other.

Sheboygan can be considered a medium-sized city, with a population of 45,747. An industrial town located on Lake Michigan about 45 miles north of Milwaukee, its work force is about 50% skilled and manual workers. The school system operates as a Wisconsin city school system, employs over 500 professional educational workers, and has a pupil enrollment of over 10,000 students. The Sheboygan per pupil expenditure, including both elementary and high school grades, is $475.24.

West Bend, located about 25 miles northwest of Milwaukee, is probably more influenced by the greater metropolitan complex than is Sheboygan. Although West Bend is a distinct community, it resembles to some extent a suburb of an urban area. It can be considered a small city, with a population of about 18,000. It is estimated that over 60% of its work force is made up of skilled and industrial workers. Although many of them work in West Bend, a small percentage commute to the Milwaukee area daily. The West Bend school system, also operated as a city system, employs over 100 professional educational workers and has a total enrollment of slightly over 4000 students. Per pupil expenditures in West Bend amount to $526.95.

Wisconsin Heights school district is made up of a rural area and two rural villages, Black Earth and Mazomanie, each with a population of one thousand persons. The villages, located about five miles from each other, have their own elementary schools containing a departmentalized seventh and eighth grade. The Wisconsin Heights High School is located about midway between the two villages. The school district employs 80 professional educational workers. About 25 miles from Madison, the district is highly rural, but serves in a small capacity as a "bedroom" community to persons employed in Madison. Total enrollment for the district is under 1400 pupils. Per pupil expenditure in Wisconsin Heights is $510.83.

INITIATION AND STRUCTURE OF THREE WISCONSIN CHANGE-AGENT TEAMS

In all cases the superintendent of the school system was the person initially contacted by a member of the University research team. The purpose of the contact, first by letter and then by personal meeting, was to explain the nature of the general project in terms of planned educational change, to determine whether the superintendent was interested in pursuing the project any further, and, if so, to discuss the concept and establishment of a change-agent team in the system. Although general criteria of change-agent teams were discussed, the structure and size of the team was not mandated by the research team but rather was left open for a

decision by the local school personnel. As a result, the following change-agent teams were composed:

Sheboygan: The superintendent delegated the creation of the change-agent team to the director of instruction with the suggestion that the latter be a member of the team. A six-member team was created including, besides the director of instruction, the following personnel: a central office senior psychologist, a junior high school principal, an elementary school principal, a junior high school teacher, and a school board member. The last was the only female member of the change-agent team. Although a formal delcaration or vote has never been made, the director of instruction has assumed responsibilities of chairing and recording the meetings during the past year.

West Bend: After initial contact with the superintendent an agreement was made to pursue activities in West Bend; communication by the research team to the system was done through the director of instruction. After a discussion between the director of instruction and a member of the research team, it was determined that perhaps a new committee need not be formed as a change-agent, but that a committee recently created which functioned much like the change-agent team model could be utilized for that purpose. The committee, called the Curriculum Advisory Committee, had been created by the director of instruction as an advisory group and sounding board to assist in the discovery and planning of needed change in the system, particularly as it pertained to the secondary academic area.

The committee was composed of eleven members of the professional staff, including the director of instruction who assumed the leadership functions. The committee was structured to represent secondary (both junior and senior high school) discipline area teachers (not necessarily including nor excluding department heads) including math, social science, English, foreign languages, physical education, industrial arts, science, and business education. Also included were a guidance counselor and an elementary principal, who was to serve as a representative of the entire elementary area. Two of the members, the social science teacher and the guidance counselor, were women.

Wisconsin Heights: The superintendent, after being contacted by a member of the research team, created a change-agent team composed of himself, the principals of both elementary schools in the district, and a teacher from each of these elementary schools. (A high school faculty committee viewing itself as a general agent of change antedated the team created at the system level.) This team was created around a specific problem rather than being created as a general change-agent team. The concept and the team were later modified to conform to a more normally viewed change-agent team, not out of conviction regarding conception but through a normal system event, namely superintendent suggestion.

Upon taking office and beginning work on the change-agent team, the new superintendent relieved the teachers of their team membership and added the high school principal to the team. Thus, four months after the creation of the initial team, a new change-agent team appeared consisting of the new superintendent, the high school principal, and both elementary principals. The focus of activity centered on the initial problem but the team began considering corollary and other problems. Although the meetings were informally run, the superintendent assumed leadership of the all-male team.

At this point a summary of comparisons and contrasts of the change-agent teams is in order. Although all superintendents were initially contacted, in only one of the three systems did he assume a position on the change-agent team. It is interesting to note that only in the smallest system was the superintendent on the team, while in systems in which the superintendent had a subordinate who assumed certain responsibilities for change in the academic area (directors of instruction), those subordinates, rather than the superintendents themselves, became team members.

In two of the three systems, de-novo committees were created. In the system which had an existing committee, that group was not viewed by itself or members of the system as a general agent for change. Thus, it appears that before participating in the study none of the three systems employed a team approach toward the conscious planning and managing of change.

Three distinct structures were present in the system change-agent teams. One was exclusively administrative. Another had mixed structure, conscientiously limiting administrators and placing teachers on the team. The third was most truly vertically-structured from the central office to teacher in the professional staff to a lay person from the school board.

It is of paramount importance to determine whether and how these three structural variables are meaningfully related to success of the change-agent teams and innovativeness of the system. At this point it is futile to

speculate and too early to make adequate determination through systematic study. Such determination is one expected outcome of the study.

OPERATIONAL ASPECTS OF THE THREE WISCONSIN CHANGE-AGENT TEAMS

A further comparison can be made in consideration of the operational aspects of each of the change-agent teams. During their year of existence, each team developed a fairly consistent pattern of operating.

The Sheboygan change-agent team met about once per month, the setting of the next month's meeting being the final act of the present meeting. A written agenda was not normally present, but the agenda for the succeeding meeting usually was verbalized by the chairman near the close of each meeting and was based on what had transpired at the meeting. Each meeting save one took place in the central administration office, the exception being the meeting directly following a two-day research team intervention with the change-agent teams. The exception took place in the library of the school of the elementary principal who was a member of the team. Meetings earlier in the year were set for 4:00 p.m., but later, when it was discovered that the lone teacher on the team had a preparation hour and could get away the last period of the day, the meetings were scheduled at 3:00 p.m. They usually were of two-hour duration.

The West Bend change-agent team held its meetings on the second Wednesday of every month from 12:30 p.m. to 3:30 p.m. All of the meetings took place in the back workroom of the office of the director of instruction. Each was a luncheon meeting, the meal being provided by the cafeteria of the high school in which the central office staff was located. Although others appeared to choose seats randomly, the director of instruction always sat at the head of the table. This was not necessarily his doing as the others always had that chair open for him if he were one of the last ones to arrive. A printed agenda prepared by the director of instruction was always present, and minutes were mailed to all members within a week of the meeting. This, too, was handled by the director of instruction.

Previous to the coming of the new superintendent, the Wisconsin Heights change-agent team met monthly, each time at a different location. Meetings were scheduled for 2:00 p.m., with substitute teachers provided for the teacher members of the team. Agendas and minutes were always prepared by the superintendent-chairman. Following the superintendency change, meetings were scheduled weekly at 8:00 a.m. in the superintendent's office. Usually no agenda or minutes were prepared.

In summary, all change-agent teams operated informally; parliamentary procedures were rarely utilized. The role of the chairman, which in all three cases had been assumed by the person of highest status, was also handled informally and was not parliamentary-oriented. Of the three, it appeared that the most structured was West Bend, possibly due to the large size of the team, while the least structured was Wisconsin Heights, possibly due to the smallness of the system and the probability that the participants saw each other every day, frequently informally.

PROBLEMS ENCOUNTERED BY THE CHANGE-AGENT TEAMS

Looking back through the course of the initial year's existence of the change-agent teams, certain problems can be delineated. These problems fall into two categories. One is generalizable to all system change-agent teams but has taken different forms or emphases. This category might be labelled process problems which include operational, organizational, and structural problems in relation to the team's self-image and role expectations from other persons or groups in the system. The other category of problems is that which each team uniquely sensed as a starting point in working in the system as a change-agent team. These problems might be called substantive and are more specific in nature than the process problems. Each category of problems will be discussed in turn.

Process Problems

One constant feature of all group life is the presence of process problems. It is necessary to deal with them initially so that energies might be devoted to substantive issues at hand. It is also necessary to continually be aware when process issues arise and to deal with them by working them through so that energies once more may be devoted to substantive issues. One set of process issues relates to individuals working in groups. These basically center about two major areas, namely dependence (authority relations) and interdependence (interpersonal relations). These two process problem areas also can be considered in group context. The dependence problem relates to the legitimation uncertainty

on the part of the group. The interdependence problem relates to the group self-image and its role expectations from other parts of the system. Either or both of these uncertainties occur in the birth struggle of a group; usually the dependence question is faced and at least temporarily dealt with prior to the interdependence problem. Change-agent teams, being groups, are no exception. All three teams established in some way faced either or both of these uncertainties and struggled with them throughout at least part of the year. In some cases the process problems were forced underground while a veneer of substantive issues supposedly displaced them. It is expected that the interventions planned by the research team into the change-agent teams will facilitate facing, dealing with, and providing a working solution to the process issues of the teams.

Both the Sheboygan and West Bend change-agent teams gave indications of uncertainty regarding authority relationships. It is interesting and important to note that Wisconsin Heights, the only change-agent team on which the superintendent was a member, did not appear to feel the dependence problem and frustration. Sheboygan early in the year and West Bend later both became aware of the uncertainty of their role as change-agents as they questioned their legitimation to act as well as to diagnose and plan. Such questioning arose in spite of the fact that in both cases the superintendent sanctioned the formation of the team and delegated responsibility for its formation and functioning to his representative specialist in the instructional area.

All three change-agent teams at times questioned who they were, what they were supposed to do, and how they might relate to the rest of the system. They became interested in gaining perceptions of others about what their role might be. By the end of the year, two of the three change-agent teams had taken specific steps to deal with the problem and work through toward solutions. West Bend held a meeting with system principals to gain feedback regarding their role in the system. Wisconsin Heights included teachers in some of their closing meetings of the year. The Sheboygan team, while discussing and planning such an event, had not implemented a meeting of this type by the end of the school year.

Substantive Problems

The substantive problems, unlike the process problems, were unique to each system. In initial discussion meetings with school system personnel, the research team advised that the change-agent team, when formed, begin formulating a problem in the system with which it might begin to deal. Although no specific interventions were made regarding problem sensing, diagnosing, and analysis by the research team during the first year of the teams' existence, all of the teams were able to undertake to some degree the initial steps in problem identification.

Two of the three change-agent teams used the entire first year of their existence to acquire a feel for the total system as a problem-sensing technique. The Sheboygan team utilized their vertically-structured team to gain insights into the system as perceived by each of the represented role incumbents. West Bend made use of the multidiscipline composition of the change-agent team to share with all of the members the problems as seen by the various discipline viewpoints. By the end of the school year, both teams were able to identify a general problem area for more serious consideration next year. The Sheboygan team chose to work on parent-school relationships, with the implication that more interaction is needed both in quantity and quality. The West Bend change-agent team has made a tentative commitment to make preparations needed in the system for the implementation of modular scheduling into the high school in the fall of 1968. The Wisconsin Heights team, which was organized originally about a specific problem, continued to pursue the problem through the change of team composition. The problem which they have identified is one of articulation between the two quite conservative elementary schools and an extremely innovative high school. Specifically, the change-agent team is attempting to work out a transitional junior high school program at both elementary schools to better prepare students for entry into the innovative high school.

Thus, both process and substantive problems have been dealt with during the course of the initial year of existence of the change-agent teams.

UNIVERSITY RESEARCH TEAM INTERVENTIONS INTO THE SYSTEM CHANGE- AGENT TEAMS

Interventions planned by the research team with the change-agent teams reflect the desired training outlined in the model. Such interventions, while made almost exclusively in the process area, have significance for substantive dealings on the part of the teams in two respects. First, through increased knowledge and expertise in the application of a problem-solving model, better solutions to important problems in the school system will be forth-

coming. Second, as a result of human relations training, less energy will be needed to meet the tense and anxiety-producing relationships at a subverted level; rather, by clarifying these relationships as they are recognized, teams can then deal with substantive issues facing them.

One intervention was completed by the research team during the past year. Other interventions are planned by them with the change-agent teams for both the first and second semesters of the 1967-1968 school year. Each segment will be discussed in turn.

The Initial Intervention

One intervention was carried out in April, 1967, which involved all three change-agent teams in a two-day training session. The purpose of the session was not so much to make lasting impact, but rather to give the teams a glimpse or preview of the types of training that would be taking place much more intensely during the coming school year.

The training centered around group laboratory experiences, where feelings of members were examined and compared as they interacted in newly-formed groups and in their familiar groups. Members were encouraged, but not forced, to seek feedback from others in the new group to give them insight into how they "came across" in a group situation and were given opportunity to experiment with new behaviors based on the feedback in the new group nonthreatening situation. Minimal training was given in handling of survey data; a brief example of the uses of feedback was presented to change-agent teams.

Interventions, Semester I, 1967-1968

A series of two-day interventions was conducted with the three change-agent teams for the first semester of the 1967-1968 school year. These sessions emphasized human relations training, application of problem-solving models and techniques, and the handling of survey data. Sessions were oriented to train change-agent teams not only to be more adept in these areas, but also to be able to work with other members and groups in the system in these training areas. Thus, effort was given not only to improving the functioning of the change-agent team internally but also to preparing the members to train others in the system to become resident change-agents at the local level.

A further emphasis in these sessions was to make change-agent teams aware of the variety of external resources at their potential service and to train the teams in the utilization of consultant services.

Interventions, Semester II, 1967-1968

Interventions planned with system change-agent teams for the second semester of the 1967-1968 school year will be action oriented to the second major function of the team, i.e., facilitating and perpetuating a climate in the system conducive to change and innovation.

With help and consultation from the research team, each change-agent team will choose a subsystem group to be trained jointly by the system and research team in the behaviors of change-agents. The subsystem team might be a building team, another vertical team, a same-level team, or an existing committee. An action-oriented problem-solving approach will be utilized as the vehicle for such training of the subsystem change-agent team. The research and system change-agent teams will take major responsibility in the training, but appropriate outside consultants will be called in as needs arise.

Thus, at this time, each system change-agent team will be working concurrently on two major projects. One is the continued work on planning and managing specific change in the system as outlined in their substantive problem sensing and identification during the past year. The other is the active intervention into the system of beginning to create a climate for change in the system through the training of subsystem change-agents.

Both of these activities of the change-agent teams may provide a start toward self-renewal in the system. Built into the entire training program conducted by the research team is the planned terminal relationship which, upon successful completion, will make the system self-activating. Thus, the final criterion of success on the part of the research team will be its disengagement from the school systems and change-agent teams.

IV

OPTIMISTIC PROSPECTS FOR A CHANGE-AGENT TEAM IN A SCHOOL SYSTEM

The change-agent team is not conceived to assume the typically regular functions of the school administrator, teacher committee, or individual teacher. Its central functions are: (1) To give attention to the school system and consider needed changes; (2) to plan and coordinate strategies at the system level for initiating and maintaining change processes; (3) to consult with colleagues in the central office and building faculties about a particular change project and to consider the prevailing school system climate regarding needs and efforts in change and improvement, including resistances to change; (4) to become a resource to colleagues in planning and managing change activities.

The institutionalization of these four functions—the optimal prospect—needs to be considered with some degree of caution. Therefore, some clarifying criteria are noted. The change-agent team is not expected to mastermind all changes in a school system. It is expected that members of the central office staff will continue to generate ideas and to proceed to implement changes in conjunction with the efforts of the team. Likewise, the expectations for change will continue to exist for the school building unit, including the classroom operated by either an individual teacher or a team of teachers. In short, the change-agent team should not usurp the prerogatives and functions of other personnel in the system. To emphasize further, its responsibility is not to legitimatize change through legal sanction, a process related to policy decisions made by the superintendent and the board of education. Likewise, a change-agent team is not expected to assume the responsibility for allocating resources. A team may, however, earn a legitimatizing role through expert functioning in such areas as creating trust among colleagues, utilizing knowledge, identifying needed innovations, installing innovations, and solving problems.

It is conceivable that a change-agent team could become, in time, a frozen bureaucratic structure that is a stumbling block to change. Thus, it would lose its capacity to free the participants of the system emotionally so that they could innovate to meet the needs of the system for change. A persistent concern of a change-agent team should obviously be that of functioning as an instrument for facilitating change. To do this it must give attention to its own processes including its needs to change.

In time the change-agent team must become a recipient of its own initiative and effort: a developer in the school system of an open and changeful climate and a recipient of influence from the innovative behavior and attitudes of other persons and groups in the system. As it seeks to develop these characteristics in the system, it must be continuously redeveloping and enhancing the same characteristics within itself.

The prospects for the operation of a change-agent team in the school system may be viewed as recommendations for teams to consider, as possible objectives for guiding the development and actions of a team. These prospects may be described under two headings: (1) enhanced functioning of the change-agent team and other school personnel; (2) structures designed and established through actions initiated by the change-agent team.

FUNCTIONAL CHANGES

(1) Desirable changes in the team self-image that reflect an increasingly realistic functioning. The team may itself become an effective group that can communicate accurately among its members and with other colleagues. With experience it improves its capacities for sensing problems in the system, analyzing them, and making and acting out plans for solving them, including the involvement of other colleagues in relation to particular problems.

(2) Involvement of other colleagues in change efforts. As it gains confidence in its own effective functioning, the change-agent

team is in a position to move deliberately and with dispatch to involve other colleagues in carefully designed activities for improving their competence in communicating and relating to others, decision-making, consulting and collaborative problem-solving.

Although it may be started by a change-agent team, a deliberate process of change should not become limited in either kind or scope of action. The characteristics of action must change in time. Just as importantly, activities initiated by a team must spread throughout the school system and not remain the property of the team only. Similar activities need to be established and replicated in appropriate forms in the administrative and technical staff and in the faculty of the school units of a system. The work of the change-agent team must also touch and involve agencies in the community that support the school system, with particular attention being given to school board members and other government officials who sanction school policies and allocate the funding.

STRUCTURAL CHANGES

One or both of two general principles need to be applied in designing a new structure for a school system: (1) that a structure establish a viable linkage between a function and structure within the system and (2) that a structure establish a functional relationship between the school system and its environment.

School systems are in need of linkages between external sources of knowledge and technology found in universities and other institutions and the operating realities of the school system. Very much needed in this area are concrete linkages that take the form of conferences, consultations, and joint development enterprises, manifesting the mutual relationship between educational research and operational practices.

Also, new linkages are needed between organizational structures and the teacher-learner functions of the school system. The former exist only for the latter and function optimally when designed to give support to teacher-learner functions. The focus of attention needs to play upon the teacher role because it is in closest proximity to the pupil role; in this sense the teacher role is the most important one in the school system.

Research and Development Council

Another prospect of a change-agent team is establishing the research and development function at the system level in the form of a council as an entity separate from the team. School systems are generally in need of a structure and associated roles that investigate problems and develop solutions through engineering appropriate products, instructional as well as organizational. A Research and Development Council could stimulate and coordinate a wide involvement of the professional staff and would possibly enable a school system to become more autonomous and self-renewing—the ultimate objective of a change-agent team.

The School Unit of Research and Instruction [12]

The establishing of Research and Instruction (R & I) Units at the school level would represent another appropriate product of the change-agent team. These Units not only provide for instruction but also carry responsibility for investigation of teaching-learning problems and the development of procedures and materials for their solution. The unitized school is organized through R & I Units headed by teacher-leaders who, with the principal, become an instructional decision-making committee. This organization has emerged as a total systems approach to improving instructions with each school building the basic instructional unit. Goodlad also conceives the autonomous individual school as the appropriate unit of educational change in the school system. [13]

An Environmental Scanning Mechanism

The introduction and operation of a structure of reconnaissance for innovations in the school environment—including neighboring schools, research and development centers, curriculum reform projects, regional educational laboratories, and educational centers operated by industries—would represent another functional outcome of a change-agent team. Through systematically searching for innovations and gathering information regarding their educational capability and application, such an institutionalized mechanism would represent an important element for assuming continuous self-renewal of a school system.

Mechanism for the Continuous Assessment of Needs

A school system needs to establish a mechanism for the continuous assessment of school system needs and problems that suggest changes in processes, structures and learning-teaching instrumentation. Such a mechanism would provide decision-makers

with a rational basis for selecting, trying, and introducing innovations that are made visible through the reconnaissance and scanning functions described above. The change-agent team itself may function in a preliminary and exploratory manner as the initiating structure for such a mechanism.

Office and Staff for Providing a Continuous Training Function

Establishing a training function in the school system with professional staff to carry out the training function represents another potential structure in the school system that a change-agent team may initiate. The staff member operating as a trainer-consultant would be available to any member or group in the school system, including student groups who encounter the need to become more thoughtful in introducing changes and more skillful in applying a problem-solving approach to a situation. Also, the trainer-consultant would be helpful to professional and student groups when confronted with the need to become sensitive to their own functioning as a group and more aware of interpersonal relations.

V

EVALUATION OF EFFECTIVENESS IN THE TEAM APPROACH TO SCHOOL SYSTEM CHANGING

The commencement and continuation of a team legitimatized in a school system for planning and managing change is dependent upon its effectiveness in performing its designated function. Its viability and efficacy as an agent for change in the system must be positively evaluated if the concept is to be introduced into and continued in real situations. The evaluation model presented here is not limited to a specific type of change-agent team in a specific system, but rather is a gross model which may have application to all structures implied in the term change-agent, taken in the contextual limitations of a school system. The following subsections will be discussed in order: criteria for evaluation, means of evaluation, and limitations in evaluation.

CRITERIA FOR EVALUATION

Although not necessarily exhaustive, the following criteria are offered, both because they relate to the general goals of change-agents in a school system and because they are of such a nature that it is possible to obtain data regarding them.

Positive Change in Individual Behaviors and Attitudes Toward Innovativeness and Changefulness

Changes in individual behavior and attitudes which reflect the criterion are problem-solving adequacy; personal innovativeness (trying new things, being receptive to new ideas, getting involved in situations which may be potentially risk-taking); operating interpersonally in an open, authentic, honest manner; accepting others in a helpful, nonevaluative way; and, as a result of the latter two, being able to work collaboratively on problems. Although data will be collected on an individual basis, analysis would be most interesting and beneficial when based on groups such as those in individual buildings or in specific roles. For example, teachers may perceive themselves as gaining in power and professionalism; principals may be perceived as exerting more professional leadership in their buildings; and central office staff may be more inclined to involve principals, teachers, and even community members collaboratively in planning and problem-solving.

Development of a Climate Which is Conducive to Change and Innovation

Characteristics indicative of this criterion might be open and clear channels of communication in all directions; decentralization of authority and responsibility so that all persons, regardless of role, may take part in the decision-making in their areas of competence; emphasis on growth in the staff rather than punitive judging and blaming; allowing and encouraging the staff to be risk-takers without fear of punitive action if less than desirable results occur.

To a certain extent, this criterion is based on the previous one and may be considered a further indication of individual change in behaviors. But the emphasis in this second criterion appears to be more directed to the superintendent and the central office and administrative staff in that they have the power to control the development of the characteristics listed in this criterion.

A Positive Change in School System Innovativeness

If the change-agent team is an effective structure in planning and managing change in a system, then the level of innovations of the system should be affected. The innovative level of a system is a many-faceted criterion where the following facets, among others, must be considered.

1. Rate of innovative adaptiveness. Has there been a change in the rate of adaption of innovations? Has the system changed from the laggard to the bulging middle band-wagon group; or has it changed further on the con-

tinuum to a lighthouse system which leads the way in innovation?

2. Quantity of innovations adapted. Is the system aware of and considering more innovations with the presence of a change-agent team than before such a team existed? Has there been a change in the actual number of innovations adapted since the creation of a change-agent team?

3. Quality of innovations adapted. Is the system considering and adapting innovations that have greater potential and more depth than those considered and adapted before the creation of a change-agent team in the system? Do the innovations have more far-reaching consequences for the system? Are new structures necessitated; are new roles needed or old roles realigned or redefined? Do the innovations of necessity involve a greater number of the staff to implement them than before? Are the innovations real and viable solutions to real problems identified in the system? Do the innovations require greater change in attitudes and behaviors on the part of staff members; do they entail greater restructuring than, say, the change required to adopt a new textbook?

4. Adapting rather than adopting innovations. Does the system adapt rather than adopt innovations to a greater degree than they did before the creation of a change-agent team in the system? Adaptation implies the restructuring or redesigning of innovations to meet the specific and unique needs of the sytem. Adoption implies the wholesale transfer of an innovation, intact, from one system or subsystem to another. The latter procedure offers little real need satisfaction to the system, and probably indicates a lack of understanding of the change process as it relates to improvement in the system.

5. The successful completion of a project. Has the change-agent team actually succeeded tangibly in implementing at least one change in the system? Does it consider a multiplicity of problems and project-solutions to the problems? The positive reinforcement of success begets a more positive self-image and role definition by other persons or groups in the system which in turn begets further success.

The Ability of the System to be Self-Starting or Self-Renewing

This entails the system knowing itself to the point that it will not be threatened as it continually senses problems in itself, and its being able to keep its defenses controlled to the extent that it can deal realistically with problems. It further entails knowing and accepting external resources which might assist in dealing with system problems, but always with the system selecting resources on the basis of carefully diagnosed needs and through the use of data about itself and about the resources. In this context the system initiates and acts, creating temporarily dependent relationships with other resources to assist in problem-solving aspects; but those dependent relationships are conscious on the part of the system, planned for and temporary.

MEANS OF EVALUATION

This section deals with the means by which the above criteria may be measured, the gathering of data. The discussion is general, not necessarily relating one means to one criterion, and emphasizes types and times of data collection.

1. Administration of formal instruments. One of the most common means of gaining data is that of presenting a formal instrument to a population, or to a random or stratified random sample of the population. In relation to the above criteria, this means of collection would be most appropriate in gaining data about individual, group, and system changes in attitudes and behaviors.

The COPED package of instruments—while limited to the degree of all attitudinal type questionnaires by validity and reliability figures lower than more objective-type instruments—provides a means of gaining data on system personnel. Through a sample of students, teachers, and professional staff, and a personal interview schedule with the superintendent, data are gathered which include perceptions of self, superiors, and others in the system relating to morale, professionalism, objectives, and social distance; personal characteristics relating to interpersonal behavior such as openness, authenticity, innovativeness, and honesty; and perceptions about system phenomena such as meetings, staff turnover, and innovativeness.

Other formal instruments can be devised which will meet the measurement needs of criteria not adequately covered in the COPED package. For example, data about individual and system innovativeness must be obtained by devising an instrument which will be sensitive to this criteria.

By analyzing these data in various ways, changes in behavior and attitudes on the part of individuals, roles, and systems may be measured, as well as changes in relationships among persons holding these roles. Further, these data can be utilized in feedback presentations to various groups of professionals in

the system with such presentations triggering behavioral and attitudinal changes.

2. Documentation of system and community data not necessarily obtained through formal instruments. Documentation is necessary for two purposes. One is the gaining of useful and pertinent data which, not detected through formal instruments, might otherwise be lost, and, if lost, might result in a misinterpretation of the data gained through instrumentation. For example, changes might have occurred in persons or groups outside of the educational world—such as the school board, parents and parent groups, and other community groups which subtly or overtly influence the school system—must be documented because, for the most part, the data cannot be obtained through formal instrumentation. The second purpose of documentation is to better understand the total system and community so that influences and results of a change-agent team are realistically understood, and so that gross, inflated, and unwarranted claims of success of a change-agent team will give way to a real understanding of the part that a change-agent team played in the change process. Documentation will underscore the fact that a change-agent team is but one structure for change in a system and thus cannot claim or be given the exclusive honor or credit for all that is happening in the school system. Through documentation of such factors as school board actions, community support, and actions by other groups of persons within and outside of the system who are also working for change in the system, a more realistic claim may be made for the work of a change-agent team.

3. Determination of the innovative level of the school system. A multifaceted approach to gaining data regarding this criterion is needed to more fully understand and evaluate the efficacy of a change-agent team in a system. Central office records and personnel may reveal sheer quantity of innovations operating in the system. Through detailed observation of each innovation, it may be possible to determine quality and depth of the innovation in relation to new or revamped roles and structures in the system. Through the use of formal instruments, it is possible to obtain from the staff information regarding the pervasiveness of existing system innovations. Again through observation, it may be possible to determine the extent to which an innovation was adapted to meet the needs of the system. Thus, a concerted effort utilizing a variety of approaches is needed to gain meaningful data on the innovative level of the school system.

4. Systematic collection of data over a period of time. Dynamic systems are in a continual state of becoming; self-renewal, rather than being an end in itself, is a continued state of growth. To gain meaningful data on the criterion of self-renewal, then, it is necessary to plan a systematic collection over time. Continued presence of a change-agent team in a system does not mean ipso facto that the system is growing. A change-agent team may harden into a bureaucratic structure which, rather than facilitating change, stifles and hampers change and innovation in the system. This would, of course, be unfortunate and would probably indicate a great lack of self-renewal capacity.

LIMITATIONS IN EVALUATION

Certain factors become limitations to the evaluation of the effectiveness of the team approach to school system changing. Among others, these factors are as follows:

1. Lack of ability to control variables to the extent that effectiveness exclusively of the change-agent team can be measured. It is impossible in an action situation to know about, much less understand, the subtle relationships of all the forces impinging on the school system which have the potential of influencing change in the system. Even with detailed documentation, such forces and their pervasive and subtle influence cannot be realistically determined.

2. The attempt to measure an ongoing process rather than an end product. Growth of a system, or self-renewal, is a process not an end. This presents problems in measurement and interpretation. A process cannot be measured adequately by collecting data only at one particular time; a process must be watched and analyzed continuously in detail. But even that can be done only after one has determined the nature of the process and placed a value judgment on the direction which the process takes. In this light, self-renewal offers no end product which might be the measure of success; for if an end is attained, it means the process has stopped or hardened, and this cannot be termed success.

3. Weaknesses inherent in attitudinal and behavioral type data. Because defenses rise to the occasion, it is difficult if not impossible to gain clear data about attitudes and behaviors of people. We see ourselves and others through the filter of our defenses, biases, and prejudices and thus introduce confounding elements into the observations. Statistically, there is little doubt that attitudinal and behavioral instruments provide less validity and reliability than instruments gathering more objective data. This then, also limits the evaluation of effectiveness.

VI

CONCLUSION

The premise of this paper is that a systematic approach to the problems of changing a school system is needed today. School officials are well advised to give attention to the planning and managing of processes of change. The change-agent team is herein described as one possible instrumentality that may be created in a school system for planning and coordinating processes of change. Certain specifications have been postulated for the design and function of such an agency. Considerations have also been given to the training of the members of a change-agent team. The empirical implementation of the concept in three school systems is described, as is the design for evaluating the effectiveness of the team as a change agent.

NOTES

To Chapter II

1. Lippit, Ronald; Watson, Jeanne; and Wesley, Bruce. The Dynamics of Planned Change. New York: Harcourt, Brace & Company, 1958.
2. Bennis, Warren G.; Benne, K.; and Chin, R. The Planning of Change: Readings in the Applied Behavioral Sciences. New York: Holt, Rinehart & Winston, 1961.
3. The consideration of value-judgments in relation to change and change-agentry is of a magnitude such that it deserves special and detailed attention which is beyond the scope and intent of this paper. Suffice it to say that in the context of this paper, references to "change" and "change-agentry" imply a value positively oriented to improvement. For more detailed consideration regarding the topic of values in change, the reader is referred to the following:

   Max R. Goodson, "Models for Effecting Planned Educational Change," in H. J. Klausmeier, W. L. Goodwin, J. Prasch, and M. R. Goodson, Project MODELS: Maximizing Opportunities for Development and Experimentation in Learning in the Schools (Occasional Paper No. 3, Research and Development Center for Cognitive Learning, The University of Wisconsin, Madison, Wisconsin, 1966).

   Kenneth Benne, "Some Value Dilemmas of the Change Agent," in Warren Bennis, Kenneth Benne, and Robert Chin, The Planning of Change, 1961.

   Herbert C. Kelman, "Manipulation of Human Behavior: An Ethical Dilemma for the Social Scientist," (paper read at the symposium on Social Responsibilities of the Psychologist, held at the meetings of the American Psychological Association in Philadelphia, August 30, 1963).

   Kenneth Benne, "Some Ethical Problems in Group and Organizational Consultation," Journal of Social Issues (vol. 15, no. 2, 1959).
4. Jung, Charles C. "The Trainer Change-Agent Role Within a School System," in Goodwin Watson (ed.) Change in School Systems, Washington, D.C.: National Training Laboratories, 1967, p. 89.
5. Richard O. Carlson, "School Superintendents and the Adoption of Modern Mathematics: A Social Structure Profile," in Matthew Miles (ed.), Innovation in Education, New York: Teachers College, Columbia University, 1964, pp. 329-342.
6. An analysis of Webster's definitions of "change" and "innovation," in both noun and verb form, indicates a differentiation based on degree of newness. As a noun, change refers to something that may be substituted, of the same kind, but fresh or new; "innovation" is defined as something newly introduced, such as a new method, custom, or device. In the latter, generic similarity is not a requirement. The differentiation is less obvious in their verb forms. "Change" is defined as "to cause to become different," with synonyms such as "alter," "modify," "vary," and "convert," describing degrees of completeness of change. Webster defines "innovate" as "to introduce new methods or devices; to make changes." In most cases in this paper, the term "change" is used to cover the entire range of "newness" in general terms. Innovations refer to specific, visible, and/or tangible educational changes such as team teaching, modular scheduling, ITA, etc.
7. These questions have been adapted from Gale Jensen, "Making Organization Work," Workshop on the Larger Organization by Max R. Goodson, Gale Jensen and Jay Jackson, Adult Leadership (vol. 3, no. 3, 1954). For an extended discussion of the diagnosis of organizational problems in school systems see:

   Gale Edward Jensen, Problems and Principles of Human Organization in Educational Systems (a forthcoming publication of Addison-Wesley Publishing Company).
8. These diagnostic questions are related to the Michigan investigations regarding con-

ditions which influence the learning experience as reported by Charles C. Jung, Robert Fox and Ronald Lippitt, "An Orientation and Strategy for Working on Problems of Change in School Systems" in Goodwin Watson (ed.), Change in School Systems (Published for Cooperative Project for Educational Development by National Training Laboratories, NEA; 1967), pp. 70-73.

9. The COPED package of instruments has been developed by COPED (Cooperative Project in Educational Development), which will be explained further in Chapter III.
10. For a detailed discussion regarding the use of consultants, the reader is referred to Max R. Goodson and A. W. Foshay, Using Consultants for School Improvement (mimeographed and available through Max R. Goodson, Research and Development Center for Cognitive Learning, 1404 Regent Street, Madison, Wisconsin 53706).

To Chapter III

11. The Wisconsin Planned Change Project is informally associated with COPED, a nationally-funded study of change in education. The COPED project consists of a consortium of five regional studies, each differently designed but similar in focus, coordinated by the National Training Laboratories of the National Education Association. The four other regional studies include the following: Boston (Boston University and Lesley Teachers College); New York (Teachers College at Columbia University, Yeshiva College, and Newark State College); the University of Michigan; and the University of Chicago.

To Chapter IV

12. See H. J. Klausmeier, W. L. Goodwin, J. Prasch and M. R. Goodson, "Project MODELS: Maximizing Opportunities for Development and Experimentation in Learning in the Schools" (Occasional Paper No. 3, Research and Development Center for Cognitive Learning, Madison, Wisconsin, Contract No. OE 5-10-154); D. M. Cook, H. J. Klausmeier, R. Cook and C. Loose, "Guidelines for Initiating an R & I Unit," (Working Paper No. 1, Research and Development Center for Cognitive Learning, Madison, Wisconsin, Contract No. OE 5-10-154); H. J. Klausmeier, D. M. Cook, G. E. Tagatz, and J. L. Wardop, "Project MODELS: A Facilitative Environment for Increasing Efficiency of Pupil Learning and for Conducting Educational Research and Development" (Working Paper No. 5, Research and Development Center for Cognitive Learning, Madison, Wisconsin, Contract No. OE-5-10-154).
13. Goodlad, John I., "The Educational Program to 1980 and Beyond," Implications for Education of Prospective Changes in Society (reports prepared for the second area conference of Designing Education for the Future: An Eight-State Project, Publishers Press, Inc., Denver, Colorado, January, 1967), p. 56.